

iPad & iPhone user

APPLE'S BEST EVER iPHONES

iPhone 6s Plus
& iPhone 6s
REVIEWED

iPad Pro
vs iPad Air 2
Apple's flagship
models fight it out

NEW



NEW

+

**iOS MUSIC APP
ALTERNATIVES**

Welcome...

Apple has a habit of releasing a whole wave of new hardware and software at this time of year, and this autumn has been no different. The past month has been packed with new products, including the iPhone 6s and 6s Plus, the iPad mini 4, watchOS 2 and iOS 9. Plus there's more to come, with the iPad Pro just around the corner.

We've been using both iPhone 6s and the 6s Plus. Turn to pages 5 and 20 to find out what we think about the new features including 3D Touch, Live Photos and the new Rose Gold model.

Existing iPhone users haven't been left out either: iOS 9 has also launched and can be downloaded to iPads and iPhones now. We reveal our favourite features on page 74.

We've also a comparison review of the iPad Pro and Air 2. If you want to know which one of Apple's flagship models is right for you, turn to page 37.

Plus, we've a review of the new iPad mini 4 on page 31, and we take a look at watchOS 2 – the latest update to the Apple Watch software that we think improves the Watch significantly – it's not only an essential update, it's a great reason to buy a Watch if you haven't yet. Find out more on page 79.

We hope you've enjoyed the issue. Feel free to send us your feedback via facebook.com/ipadiphoneuser or email rob_grant@idg.co.uk.

Bumper iPhone sales

Apple sells 13 million iPhones during 6s launch week

Apple expected to break records with sales of the iPhone 6s and 6s Plus on launch weekend, and it was right on target. The company sold more than 13 million new iPhones in 12 countries, beating last year's opening weekend record of 10 million phones sold.

"Sales for iPhone 6s and 6s Plus have been phenomenal, blowing past any previous first weekend sales results in Apple's history," Apple CEO Tim Cook said in a press announcement. "Customers' feedback is incredible and they are loving 3D Touch and Live Photos, and we can't wait to bring iPhone 6s and iPhone 6s Plus to customers in even more countries"

The story behind the story: It's important to note that China was one of the launch countries this time around, which was not the case last year. The iPhone 6 and 6 Plus went on sale in China on 17 October, 2014, nearly a month after hitting the shelves here in the UK. But Apple will only be able to include sales through Saturday 26 September in its fourth-quarter earnings report. Sales from 27 September on will be bundled in to Apple's holiday quarter results, which we'll hear about in January.





Record-breaking upgrade

More than 50 percent of iPads and iPhones running iOS 9

After just one, Apple reported that more than 50 percent of devices had adopted iOS 9. That means it's on track to become Apple's most popular software upgrade of all time.

The story behind the story: It took nearly a month for Apple's last major iOS upgrade to reach 50 percent of devices. Why? iOS 8 was huge. People with 16GB iPhones who wanted to upgrade over the air were faced with the problem of having to delete apps just to make room for the upgrade, which was a major hassle. Then there was iOS 8.1, released just a week later, which bricked some phones as soon as it launched. iOS 9 is much smaller than iOS 8, at 1.3GB versus 4.58GB, and adds a new feature where you can temporarily delete apps to make room for the upgrade, then get them back (with all user data intact) after installing.



Review: iPhone 6s

Everything you need to know about Apple's new phone

The iPhone 6s is finally here. Apple promised it would be faster than its predecessor, while boasting a feature that the tech giant compares to the introduction of multi-touch (the technology responsible for the touchscreen mobile boom) – 3D Touch. But has Apple succeeded in creating a new type of interaction that we'll be seeing on other smartphones in coming years? Or has it fallen flat on its face? Find out in our review.



Price

Like its predecessor, the 6s is available starting at £539 for the 16GB model. The 64GB option is available for £619, while the 128GB phone is £699. We're pleased to see that Apple hasn't upped the price despite the introduction of 3D Touch.

Design

As expected, the design is in essence the same as the iPhone 6, though there have been a few slight changes, as well as a new colour option. It has a curved 4.7in display and is made with a sleek, rounded aluminium casing just like its predecessor. The main difference is that the 6s is made with a more durable Series 7000 aluminium, which the tech giant also uses for the Apple Watch. This is in order to prevent a repeat of 2014's Bendgate debacle. We're hoping this also translates into a sturdier iPhone as our 6 Plus would dent from relatively small drops, though we've yet to (willingly) drop our 6s to put this to the test.

What's more, the 6s is also available in a new Rose Gold colour option, adding to the Gold, Silver and Slate Grey we've seen previously. Photos don't do the rose gold iPhone any justice, as it looks 10 times better in the flesh.

As expected, the iPhone 6s and 6s Plus are slightly thicker than their predecessors, but by such a teeny tiny amount (two tenths of a millimetre to be exact) you'll never realise. Although with this said, we have noticed that the 6s is marginally heavier than the 6 – but with the added protection of Series 7000 aluminium and the introduction of 3D Touch technology, we think it's a worthy trade-off.

Display

We're a bit disappointed to see that Apple hasn't increased the resolution of the iPhone 6s' screen. It's the same Retina display as that found on its predecessor, though it has the 3D Touch technology beneath it to introduce a huge range of new possibilities that we're excited about.

The 6s has a 1334x750 resolution display, with a pixel density of 326ppi. And while we've found that the screen on the iPhone 6 is perfectly satisfactory, there's no doubt that Quad HD displays from the likes of LG take things to a level that Apple



hasn't reached. This won't bother iPhone 6 users, but it's a noticeable difference for those switching from the 6 Plus, with its full HD display to the 6s.

3D Touch

3D Touch is a mixture of display technology, hardware and software, but it's one of the most exciting new features of the new iPhone 6s, so we're dedicating a whole section of this review to it.

It works a lot like Force Touch on the Apple Watch and the new MacBook Trackpad, detecting force to enable new ways to interact with the smartphone. In addition to tapping, you can 'Peek' and 'Pop' by pressing lightly or pressing harder. You're able to interact with apps made by Apple, as well as those made by third-party developers in new ways thanks to the technology.

On the home screen, you're able to press on icons to go straight to a particular part of that



application. For example, pressing the Instagram icon will bring up options to post a photo or video, view your activity, access your direct messages or initiate a search, and the Camera icon will present options that let you take a selfie or start shooting a video. But what about apps that don't offer any kind of shortcuts? It'll blur everything around the icon, vibrate quickly, then revert back to its original state to show you that it recognised the press, but nothing else is going to happen.

It's difficult to understand how great this new feature is until you've tried it yourself, as it's all about how it feels to use, though we can try our best to explain it because things get interesting when you're using it from within an app. It can be a bit fiddly, but we think we'll get used to it in time.

For one, you can use it to preview a message in Mail. From your inbox, simply force press on an email to 'peek' into it and get a preview of the content. It's



a much easier way of browsing your inbox, but it'll take some getting used to – we've found ourselves lifting our thumb when peeking into an email to see what is written beneath our thumb, which minimises the preview.

Although as our US colleague Susie noted in her hands-on review of the iPhone 6s, it's not really used for reading, which is why Apple calls it 'peek'. It's meant for small interactions that'll make your life a little easier. From the Peek preview in Mail, you can swipe right to mark the email as read/unread, swipe left to archive it or swipe up to unveil additional options including Reply All, Forward, Mark, Notify Me and Move Message.

The good news is that when you swipe up to unveil additional options, the preview window becomes fixed in place, allowing you to take your finger off the screen to select the option you want. It'd be awkward to do otherwise. If you want to go



into the email, you'll want to press that bit harder to 'Pop' into the message and reply or read more.

In Messages, you can use 3D Touch to achieve lots of different tasks. Hard press on a name to call them, FaceTime them, add them to contacts and more. If you press on URLs you can peek at them to see a preview of what they'd look like in Safari, or press harder to pop into the app itself. Street addresses can be previewed in Maps, dates can be added to the Calendar and more. In essence, it should make everything much quicker and prevent you from needing to switch apps regularly.

And thanks to Apple's much more open approach that began with iOS 8, third-party developers will be able to use the technology in the apps and games. Instagram was one of the first to implement 3D Touch compatibility, enabling users of the popular social network to 'peek' at other profiles from their feed, as well as 'peeking' at pictures and videos when browsing a particular profile. It's a better way of interacting and is taste at what is to come with the future of 3D Touch in third-party apps. We're definitely excited for the potential this new technology holds.

Another exciting example of third-party developers using 3D Touch is in AG Drive, a futuristic racing game available on the App Store. When racing, you can use a varying level of force to dictate your level of acceleration, and pushing hard will activate a speed boost. This is compared to having a single option for acceleration and needing to move your finger to hit the boost button on other devices, which after using the 6s for a few days seems like an awkward way of gaming.

Performance and hardware

Inside the iPhone 6s is a new A9 processor that's paired with an M9 motion co-processor to improve efficiency. Traditionally iPhones have had a modest 1GB of RAM, but Apple has decided to upgrade the 6s to 2GB.

The tech giant says that the iPhone 6s' processor is 70 per cent faster and has 90 percent better graphics performance. The phone scored 2511 in single-core and 4404 in multi-core mode in Geekbench, putting it just behind the processing power of the Galaxy S6, which scored 4438 points. It beat the HTC One M9 by a whopping 626 points, scoring 3778 points, which would normally be an acceptable score.

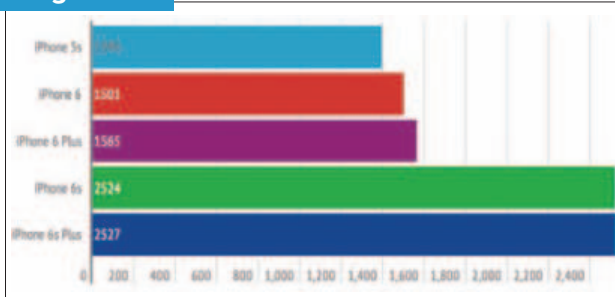
However, it's in the graphics department that



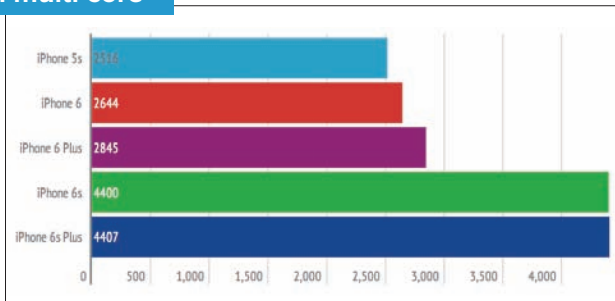
the 6s really flexes its muscles. We ran two GFXBench tests – T-Rex and Manhattan, the same tests that our colleagues at PC Advisor use when testing Android devices, and compared the results. Samsung's Galaxy S6 managed a respectable 30fps in T-Rex and 14fps in Manhattan, while the iPhone 6s scored a whopping 59fps in T-Rex and 56fps in Manhattan.

Rumours about the 6s suggested that Apple would drop

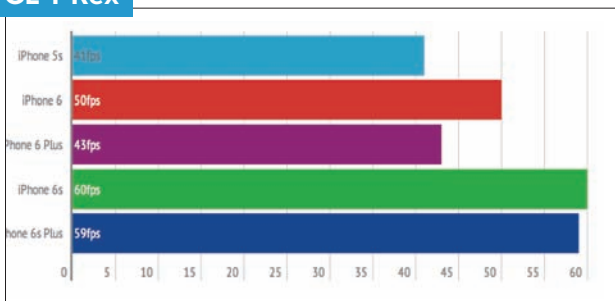
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Geekbench multi core

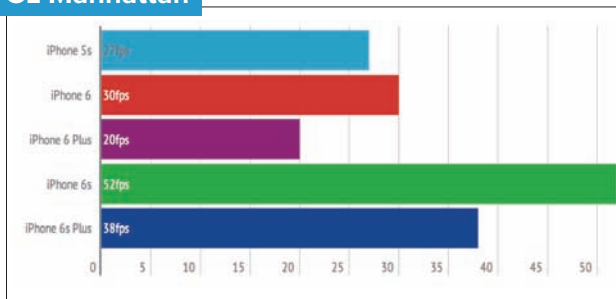


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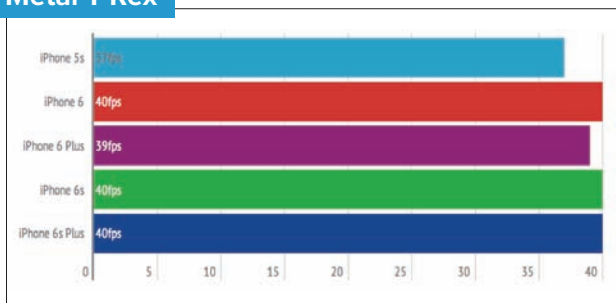


the 16GB model in favour of a 32GB, 64GB and 128GB line-up, and we were keeping our fingers crossed that it was true, as we really don't think that 16GB is enough space for most iPhone

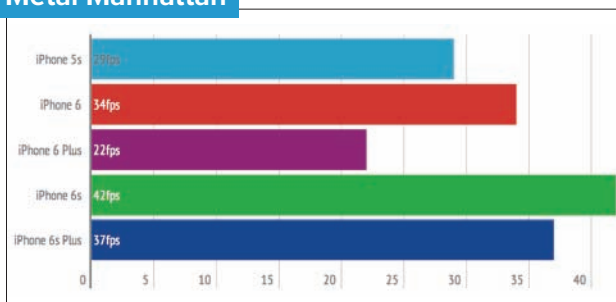
GFXBench GL Manhattan



GFXBench Metal T-Rex

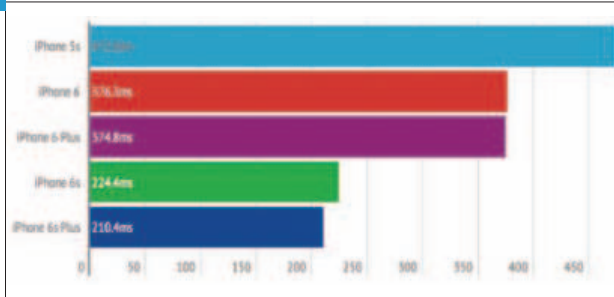


GFXBench Metal Manhattan



users – especially with Live Photos and 4K video shooting. Annoyingly, though, Apple has stuck with the same 16-, 64- and 128GB models. There are iCloud options available to help store Photos,

SunSpider



Lower score is better

Music and more in the cloud, though you'll get only 5GB of iCloud space for free, so you'll find that you're paying for the privilege. We'd strongly recommend opting for the 64GB model if your budget can stretch to £619.

Apple has improved the Touch ID fingerprint sensor beneath the Home button too, which is speedier and more reliable. Indeed, we found it to be a little too fast in our tests.

We've got into the habit of using the home button to wake up the display of our iPhones to check the time on the lock screen, as the power button is awkward to reach when using a 6(s)/6(s) Plus. However thanks to the updated Touch ID, your phone is unlocked almost instantly after pressing the button, which isn't what we want to happen when we only want to check the time. It's a true 'first world problem' to have, and we're really not complaining, but it requires a bit of a workaround (using fingernails, swiping when clicking) to avoid.

The iPhone 6s still uses the Lightning port rather than the rumoured USB-C, though we suspect that this might be the last iPhone model to do so as



USB-C becomes the standard port across all mobile technology and laptops.

Camera

Apple has made some improvements to the iPhone's camera, introducing a 12Mp camera to the rear and a 5Mp camera to the front. That's a significant improvement over the 1.2Mp camera on the front of the iPhone 6, and the 8Mp camera on the rear. Panoramas are now up to 63Mp, too.

The camera is impressive, and rather than focusing on packing in loads of new pixels, Apple has instead focused on improving the technology behind it to produce top-quality images. We're amazed at just how good the quality is, and especially how good it is at white balancing .

Interestingly, the company has also turned the display into a true-tone flash for the front camera, and we think we should see a huge improvement

when it comes to selfies. Then there's video, which has been improved to a fantastic 4K while the front-facing camera can record up to 1080p HD.

A software-based camera feature that we really like is called Live Photos – it's exclusive to the iPhone 6s and 6s Plus. Live Photos is turned on by default in the Camera app, and if you leave it on, it'll automatically capture 1.5 seconds before and after the moment you press the shutter button. In essence, it's a really short video or an animated Gif, but it actually uses 12Mp photos captured by the iSight camera. You can share them with friends, and if they're running iOS 9 or El Capitan they'll see the animation, too.

When you're flipping through your photos in the Camera Roll on the 6s, you'll see a little glimpse of the animation to signal the fact it is indeed a Live Photo and not a still. If you want to watch it, press harder using 3D Touch and you'll see the full three seconds, complete with an audio snapshot. It's a great idea, and really plays on nostalgia. Imagine being able to look back at a moving snapshot of yourself/your friends – it'll be a much happier experience than a looking back on a photo alone, and no extra effort is required on your behalf.

Apple is opening Live Photos up to developers, too, so apps such as Facebook will be able to support the feature, and we imagine that the likes of Twitter and Instagram will introduce it, too. Our only concern is the space they'll take up.

We've been out to put the 6s camera to the test. The following images have been in no way edited or compressed, we took them straight from the iPhone.



Software

The iPhone 6s ships with iOS 9, which introduces lots of new features for all iPhone owners, but

thanks to the 3D Touch display there will be lots of additional features for users of the new iPhone based on the new Peek and Pop interactions.

iPad & iPhone User's buying advice

We're really impressed by the offerings of the iPhone 6s, especially the 3D Touch technology. If it catches on (and we think it will), it will completely change how people interact with their iPhones, both in terms of browsing the web and social media, as well as when gaming. The camera overhaul is definitely a welcome addition, especially when you consider Apple hasn't upped the resolution of its iSight camera since the iPhone 4s back in 2011. This works well with Live Photos.

It doesn't just boast impressive new features, the boosted internals provide a much faster iPhone than we're used to, and tasks that would take seconds on our 6 Plus took a split second on the 6s.





Review: iPhone 6s Plus

The complete guide to Apple's phablet

The iPhone 6s Plus is Apple's newest top-of-the-line phablet: a big, 5.5in smartphone with a super-fast processor and a new pressure-sensitive screen. Here are our early impressions of the latest Apple phablet.

Price

The 6s Plus is available in three storage flavours: 16GB, £619; 64GB, £699 and 128GB, £789.

There are four colour finishes to choose from: silver, gold, Space Grey and the new rose gold.

Design

As is traditional with 'S'-class updates, the iPhone 6s Plus has essentially the same physical design as

its predecessor. Indeed, look at a 6 Plus and 6s Plus side by side and you'd struggle to tell them apart.

The 6s Plus is fractionally wider and thicker, and a little heavier too; these changes are to accommodate the components needed to power the new 3D Touch screen. But you're extremely unlikely to notice the extra volume, or to care much about the extra 20g. (The new screen tech more than justifies the compromises required to include it, as we will see in due course.)

The iPhone 6s Plus remains a slender and lightweight device, given the generous proportions of its 5.5in screen, and one that feels comfortable in the hand. That doesn't mean its dimensions are right for everyone, however: if you have small or even medium-sized hands, you'll probably find that you can't reach the entire screen with a single thumb the way you could on a 4- or even 4.7in screen. You can treat the 6s Plus as a two-handed device, like an iPad mini, but Apple has also added a clever interface feature called Reachability that pulls the screen downwards when you double-tap.

These considerations are the same as for last year's model. But one major change to the physical design concerns the thickness and material of the metal chassis.

'Bendgate modifications': Series 7000 aluminium and reinforced sides

The 6 Plus suffered from an (almost certainly overstated) problem known as Bendgate, which saw a handful of users complain that their devices had bent as a result of being placed in a tight pocket for some time. The 6s Plus bears obvious clues that

Apple took this issue to heart. Its metal chassis is both thicker around the vulnerable, bend-prone areas, and made of a stronger aluminium alloy.

Previous iPhones have been made of 6000-series aluminium alloy, whereas the 6s Plus is made of the stronger (and lighter, and costlier) 7000 series. The new iPhones are clearly tougher to bend than their predecessors, and the fact that Apple has been able to make this change without increasing the cost from last year's models is impressive.

Display

The specs of the iPhone 6s Plus's display are identical to those of its predecessor. Like on the 6 Plus, we're looking at a 5.5in touchscreen with an (exceptionally high) resolution of 1920x1080 and a pixel density of 401 pixels per inch (ppi). Considering that the Retina-rated 326ppi of the iPhone 4 and onwards was once supposed to be



the sharpest a human eye could perceive, 401ppi is nothing to be sneezed at.

A 5.5in screen is huge by iPhone standards, of course, and if you're not familiar with the 6 Plus, it's worth restating that a display of this magnitude is fabulous for gaming, movies and TV.

3D Touch

The single most important upgrade in the new generation of iPhones – both in terms of genuine tech-culture significance and trivial ‘wow’ factor – is 3D Touch, without a doubt. This is the Force Touch pressure-sensitive tech seen in the Apple Watch's screen and the 12in MacBook's trackpad, but upgraded to produce separate interface commands in response to three levels of pressure rather than two. (In certain contexts, at any rate. In some apps you'll find that your options are limited to just ‘tap’ or ‘deep tap’. Indeed, at this point you'll find that



most non-Apple apps haven't got any 3D Touch functionality at all.)

So you can tap the display of the iPhone 6s Plus normally; or you can do a harder/deeper press; or you can press it harder still – and each level of pressure will (potentially, depending on the app) do something different. If you're worried about judging precisely how hard to press, there is haptic feedback – a brief gentle buzz under the screen – that lets your fingers know what is going on and whether or not further pressure is required.

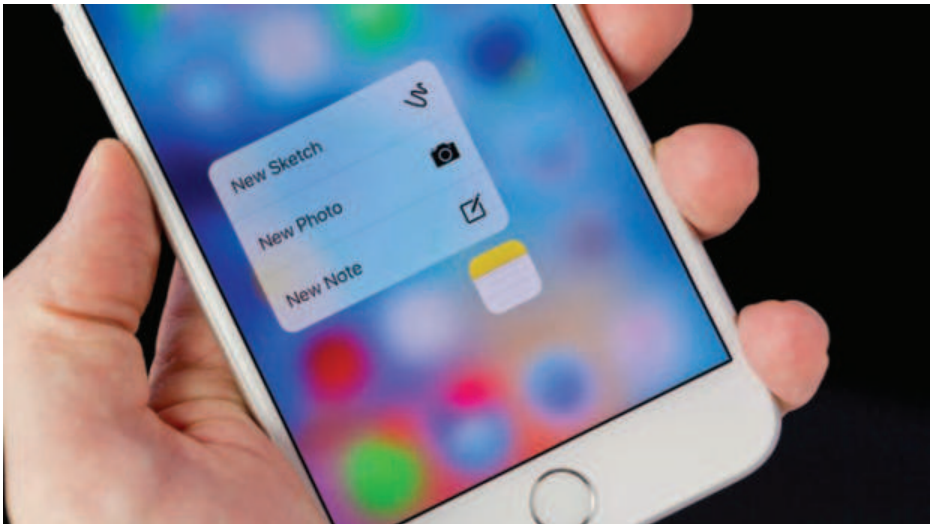
(We're not blown away by the clarity or strength of the feedback, and it's worth stressing that it isn't anywhere near as obvious a sensation as the fake click you get on the Force Touch trackpad. When you're tapping an icon or element near the top of the screen, in particular – presumably because you're further away from the buzzer unit – you often feel almost nothing at all.)



Interface commands vary from app to app, but the unifying principle behind the three types of tap is that the first activates an app or command in the traditional way. The second activates a 'Peek', previewing whatever you're touching, whether an email, a map view (by Peek-tapping on a set of directions), a web page (by Peek-tapping on the URL), and so on. Further actions and gestures are possible from the Peek view, such as marking an email as read or deleting it, but you can return to wherever you were at any point by lifting your finger.

Finally, pressing deeper still closes the preview and opens whatever you were tapping in the relevant app.

This seems handy (following the same principle as interactive notifications, allowing you to interact with another app without leaving the one you're in currently), but potentially handier (because simpler to grasp) is the ability to Force Click app icons on



the Home screen in order to see a short menu of commonly used instant actions, in effect allowing to jump straight to a specific function of a specific app with a single tap. You can Force Click the camera icon, for instance, and see the options to record video or take a selfie. Force Click the Facebook icon and you'll see the option to post a status update. And so on.

These are the two main aspects of 3D Touch that Apple has talked about so far, but there are more to discover. If you do a deeper-press on the keyboard when typing in a tweet or email, for example, you gain control of a virtual cursor:

The 6s Plus offers three degrees of pressure – corresponding to a normal tap, Peek and Pop in many apps – which makes the interface more complex again. We fear that the iPhone's legendary clarity, the proverbial way that toddlers can pick up an iOS device and instinctively use it in roughly the right way, is in some danger.

It's possible that 3D Touch will become culturally all-pervasive, widely imitated and discussed and understood by most within a few years at most. Conversely, it could remain as a secondary interface layer that's available to iPhone users who get past the beginner stage, provided that apps can be used to a decent level of functionality without knowing that Peek and Pop exist.

iOS 9

Aside from the new hardware features, it's worth pointing out that numerous significant upgrades arrive with new versions of the iPhone's iOS software each year. iOS 9, which is preinstalled on

the 6s Plus but can be installed on existing iPhones too, offers a plethora of new features, including:

- Proactive contextual assistance (shortcuts to apps and contacts that iOS has observed that you tend to use a lot at the current time, links to locally trending news stories and the like)
- Low Power Mode for preserving battery
- A dedicated News aggregator app
- Public-transport directions in Maps

Camera

For the first time since the iPhone 4s, Apple has increased the megapixel rating of its iPhones' principle (rear-facing) camera, from 8Mp on both iPhone 6 models to 12Mp here. (It can also shoot 4K video.) The front-facing camera gets a bigger bump, going from 1.2- to 5Mp.



Live Photos

They're not videos, Apple insists, but you certainly can't call them still photos. They're something in between. Live Photos are taken normally – assuming you've got the Live Photos option enabled, every photo you take with an 6s Plus will be a Live Photo – but by automatically recording and storing video of the 1.5 seconds before you click the shutter and the 1.5 seconds afterwards, iOS 9 packages up three seconds of video with the still shot. You can choose to animate the photo at any point, generally by deep-pressing it.

When you're swiping through your photos, any Live Photos will advertise their nature with a very short animation; deep-press them and they will do the full (but still only three-second) animation. You get the single-image sharpness of a still photo, but the life and interest of a short video.

You can set a Live Photo as your lock-screen wallpaper, and deep-pressing will cause the animation to trigger. We understand that they can also be exported as Apple Watch wallpapers, although we've not had a chance to try this.

Our experience has been a bit hit-and-miss. The videos have been rather lacking in smoothness, and often seem to glitch somewhat (repeating part of the three-second chunk at the beginning and end). And we're not taken any particularly memorable clips. We're still getting used to the feature, though, and much of its appeal lies in the occasional gold that can be discovered beneath the dross of boring or bad photos. It only needs to work well from time to time to earn its keep. If you wanted a proper video, of course, you'd just take one.

Apple was keen to play down fears that Live Photos will be storage killers, and the fact that they are just three seconds should limit the damage they can cause in this respect. But those plumping for the 16GB 6s Plus would probably be advised to exercise caution when taking – or keeping – Live Photos.

iPad & iPhone User's buying advice

“The only thing that's changed is everything,” says Apple. Not quite true, it must be said, but there are certainly more significant upgrades and rethinks in the 6s Plus than we'd expect from an S-class update.

3D Touch is a major change, with immense potential. We can see it going in either of two directions: becoming a baffling distraction for beginners and a rarely used gimmick for the rest, before being quietly phased out a generation or two down the line; or unlocking umpteen new interface



improvements, inspiring the imagination of genius app devs and saturating tech culture until we can barely imagine smartphones without it.

The increase in camera specs is nice to have, although judging the real-world benefits calls for more prolonged testing. More immediately appealing is the new Live Photos feature: very cool, if unlikely to produce long-term changes to the user experience as profound as those instigated by 3D Touch (and still a bit hit-and-miss in our experience).

Other than these, you're looking at a carbon copy of the larger member of Apple's most successful ever iPhone generation, with a slender (and now reinforced) body and a giant screen. Pretty much all of the things that made the 6 Plus a bestseller still apply, with the added wow factor of 3D Touch, Live Photos, better cameras, a faster chip backed by more RAM and faster and more reliable Touch ID.





Review: iPad mini 4

Finally, the update we've been waiting for

When Apple releases new hardware like the new iPad mini 4, one way to look at it is to compare the new device to the one it replaces. In this case, the replaced device is the iPad mini 3, a completely forgettable iPad. How forgettable was it? Apple decided to keep the iPad mini 2 – not the iPad mini 3 – as the affordable iPad option in its lineup. The only new features the iPad mini 3 had over its predecessor was Touch ID and the option to buy a gold version. That was it—the processor, display, cameras, and everything else were the same as the ones in the iPad mini 2.

Fortunately, the iPad mini 4 has a lot more to offer for owners of older iPad models. It's a much better upgrade to the iPad mini 2.

Price for the Wi-Fi models start at £319 for the entry-level iPad, £399 for the 64GB option and £479 for the 128GB tablet. Cellular iPad mini 4s are priced £419 for the 16GB option, £499 for the 64GB tablet and £579 for the 128GB model.

Looks the same, but different

At first glance iPad mini 4 looks like the iPad mini 3 (and iPad mini 2). However, the iPad mini 4 is fractionally taller, thinner (203.2x134.8x6.1mm) and lighter (298.8g). (The mini 3's dimensions and weight are 200x134.7x7.5mm and 331g. If you have a case that you used with an old iPad, it may not fit perfectly on the iPad mini 4.

The display may also look the same as before. But upon closer inspection, the iPad mini 4 has better overall image quality. The display is still a 7.9in, 2048x1536-pixel resolution, LED backlit display, but Apple now uses laminated displays with anti-reflective coating. The result is better colour saturation that make viewing photos on the iPad mini



4 a richer experience. And it's much easier to see the display in bright light—there's still a small amount of glare, but it's so minor compared to the previous iPad mini models.

While I use my subjective evaluation to tell you the iPad mini 4 has a better-looking display, the folks at DisplayMate technologies have done lab testing to support my point of view. DisplayMate says the iPad mini 4 matches the iPad Air 2 and the iPhone 5 and 6 in colour accuracy, and that the iPad mini 4 does an even better job at cutting down screen glare than the iPad Air 2, which DisplayMate had previously deemed as the top performer in reflectance tests.

Finally, a processor upgrade

The iPad mini 3 had the same A7 processor as the iPad mini 2. The iPad mini 4 features Apple's A8 processor, which is a significant upgrade. It's not as fast as the A8X processor in the iPad Air 2, but there as size and heat considerations that need to be taken into account.

If you've been using an older iPad mini, the iPad mini 4 immediately feels snappier. Web pages loaded quickly, and switching between apps went without a hiccup. Overall, I didn't experience any exaggerated processor lag.

To collect numbers to form a benchmark comparison, I used Geekbench. The iPad mini 4 was 27 percent faster than the iPad mini 3 in both the Geekbench single-core and multi-core tests.

The iPad mini 4 ships with iOS 9, so you get all the benefits of Split View, Picture in Picture, Maps transit information, and more.

Battery life

Apple touts a 10-hour battery life of mixed use that includes Wi-Fi web access and video and music playback. Of course, your mileage will vary depending on your use, but ten hours should be enough for most people.

I never had to worry about battery life while using the new iPad mini 4 during an extended period of use – an extended period being over two hours. I tended to email, wrote, visited websites (some with video), chatting online, played a couple of games, and other tasks. It took a few days of using the iPad mini 4 for a couple of hours, putting it away for a while, and then later using the iPad again before I needed to charge it.

I did run a video test, where I continuously played videos on the iPad mini 4 until the battery was drained. I set the device to airplane mode, since a long flight would be the proper situation where you might watch several videos in a row. The iPad mini 4 battery lasted on average just over 11 hours, an hour longer than Apple's spec.

Geekbench has a battery test, and when I ran it on the iPad mini 4, the battery lasted on average just over 6 hours. This test is a lot more strenuous than my video test (it has an option to dim the screen, which I turned off), and I imagine it might be tougher on the battery than what most people do as work.

Better camera

The iPad mini has long been stuck with a 5Mp iSight camera (that's the back-facing camera). Now, I don't usually use any kind of iPad to take pictures, but there's an old saying that goes something like, "the



iPad mini 4



iPad mini 2

best camera is the one you have with you.” And sometimes, when you’re using your iPad, a photo moment appears, and, hence, the best camera you have is the iPad’s.

My point is that a better camera – regardless of how often you use the iPad as a picture-taking device – is a welcomed feature, and Apple has finally outfitted the mini with a better camera. The mini 4’s iSight camera matches the 8Mp specs of the iSight camera in the Air 2; along with a new burst mode, it’s a nice upgrade from the 5Mp camera that couldn’t shoot in burst mode in the previous iPad minis. Video recording is still done at 1080p, but there’s now support for slow-motion video capture.

The mini 4’s iSight camera (top left) did a better job of handling outdoor shots in bright sunlight and shadows than that in the mini 2 (top right).

The mini 4’s iSight camera captures very good detail and nice colour quality. I think the iPhone 6s Plus produces much better image quality overall – Apple outfits the iPhone with a better iSight camera than the iPad because it’s the camera you have with you all the time. But if you do need to shoot photos or videos using the iPad mini 4, you can rest assured

that it will do an acceptable job. The FaceTime HD camera (the front-facing camera) has only one change: burst mode support. Otherwise, it's still a 1.2Mp camera capable of recording 720p HD video.

iPad & iPhone User's buying advice

With the holidays fast approaching, the iPad mini 4 will be a popular gift, maybe even for yourself. If you own an older iPad – especially if it's over two years old – you'll be very satisfied with the iPad mini 4 as an upgrade. It's fast, sports a great-looking display, and it's even lighter than its predecessors.

Spend the extra money on the 64GB version, especially if you think you will take a lot of photos or videos, or play a lot of games. As an owner of a 16GB iPad 2, I hit the storage ceiling very quickly, mostly because of games. With iOS 9, Apple released app slicing, which will help owners of 16GB iPads by installing smaller apps, but I would play it safe and get more storage.

The iPad mini 2 is still in Apple's line-up and has a significantly lower price. If you're a budget-conscious buyer, then it's a good deal.





iPad Pro vs iPad Air 2

Apple's flagship models go head-to-head

This time year the iPad Air 2 had the world at its feet. In Apple's tablet line-up, the Air 2 (right) was the top of the range: Apple's most powerful mobile device ever, with a luxurious 9.7in Retina-class screen, Touch ID and all of Apple's latest features. When iOS 9 came along earlier this year, its position of eminence seemed to be confirmed: only the Air 2 got access to the full package of features, with the Split View multitasking feature denied to every other Apple device.

All this ended abruptly with the announcement of the iPad Pro. The Pro vaults effortlessly to the top of Apple's tablet line-up, packing a bigger screen, faster processor, superior wireless and audio setups and two cool new accessories. It's also more expensive, however (we don't know UK prices yet, but we know that it's going to be a cool \$250 more than the Air 2 in the US for equivalent models) and there are other drawbacks to going for the Pro.

Design and portability

Most obviously and perhaps most importantly, the iPad Pro is a lot bigger than the Air 2. This allows for a considerably bigger screen, which we'll discuss in the next section, but it's important to grasp the difference in portability that results from the extra volume and weight you're going to be carrying



iPad Air 2

around – even if the Pro remains an impressively slender tablet.

The Air 2 won't fit in a pocket, but it slips easily into a handbag or small rucksack and can be held easily in one hand – which is an important consideration if you want to use it as an ebook reader. The Pro is closer to a MacBook Air – it too slips into a rucksack but takes up more of the space inside, and while it can be held one-handed it can't realistically be used in this way.

The Pro is about 63 percent heavier than the Air 2; and roughly 27 percent longer and 30 percent wider. We think that getting the Pro's thickness down to 6.9mm is a stunning achievement, but that's still 13 percent thicker than the super-slender Air 2.

Here are the vital statistics:

iPad Pro (Wi-Fi only): 305.7x220.6x6.9mm; 713g

iPad Air 2 (Wi-Fi only): 240x169.5x6.1mm; 437g

Aside from being bigger, the iPad Pro has a similar physical design to the Air 2: the materials, bezel, edging and so on are the same, only on a grander scale. There are new Smart Connector ports on the lefthand side, which allow for the attachment of new keyboard cases (we talk about these in the accessories section) and you get four speakers instead of two (covered in the audio section) but the rest of the design is the same.

Screen

The iPad Pro has about 78 percent more screen space than the Air 2. If you use the Pro in landscape orientation, the screen area you get is comparable to a pair of Air 2 screens (each in portrait mode) side by side. This comes into its own when running two apps in iOS 9's new Split View, which works on the Air 2 but was clearly designed with the Pro in mind.

The Air 2's display is comfortably big enough for enjoyable, immersive gaming and film/TV watching; the Pro's extra screen space makes the experience better still (and its superior audio is an added bonus when watching movies) but could not be described as essential.

Where the larger screen really comes into its own is for work applications, and particularly creative work applications. The Pro is a marvellous as a



digital art tablet (helped additionally by its new stylus accessory) and is a strong option for the business user who needs to work across multiple documents and/or productivity applications at once.

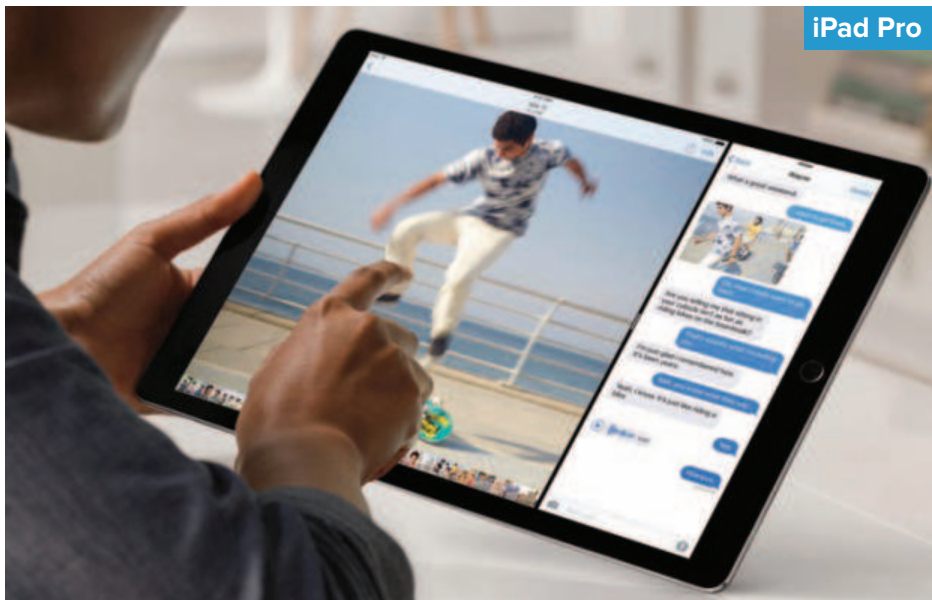
Here are the screen details:

iPad Pro: 12.9in (2732x2048, 264ppi) display

iPad Air 2: 9.7in (2048x1536, 264ppi)

Processor power

Another year passes, and processors get faster. The iPad Air 2 is no longer the fastest iOS device on the block. Whether you'll need the iPad Pro's processing and graphical power to run apps that are currently available is another question, but it certainly offers a substantial degree of future-proofing. Apps are only going to get more processor-intensive.



The iPad Air 2 comes with the A8X processor (and its accompanying M8 motion co-processor). The iPad Pro has the A9X and M9. These are proprietary Apple processors, and the company doesn't announce detailed specs, clock speeds and so on, so for the time being we are limited in the comparisons we can draw. But it's clear that the A9X is seriously fast.

Apple claims that the A9X enables the Pro to deliver "up to 1.8 times the CPU performance and double the graphics performance of iPad Air 2". That's in comparison to a device that was and remains a mobile powerhouse.

The Pro, then, can run absolutely anything on the App Store with insouciant ease, and will carry on being able to do this for months and probably years to come. This is undoubtedly a fine thing for those who enjoy video editing, and high-end gaming, and that kind of thing; but if your ambitions are limited to simpler apps or more basic tasks, the A9X is overkill. (If you honestly can't imagine yourself using your tablet for anything more demanding than email, surfing the web and simple games, even the Air 2 is more than you'll need: consider the Air 1 or one of the mini models.)

When we get hold of an iPad Pro review sample we'll compare the two tablets in Macworld's rigorous speed tests and update this article with more scientific comparisons.

Accessories

The iPad Air 2 has a wide range of accessories, some made by Apple but many more made by third parties: you can choose from a huge variety

of cases, covers, keyboards and audio accessories. The same can't be said of the iPad Pro, which isn't even out yet, but you can be sure that the accessory makers will rush out compatible products in short order. (And in fact many iPad Air accessories will work with the Pro anyway.)

One advantage held by the Pro in this department relates to a pair of rather nice Apple-made accessories that were announced at the Pro's launch event. These are a stylus – called the Apple Pencil – and a new keyboard cover called the Smart Keyboard. The keyboard attaches to the Pro via data/power ports on its lefthand side, and therefore even a smaller version of it couldn't be used with earlier iPad models. The Apple Pencil, too, has been designed (Apple says) with the Pro specifically in mind, and because of a redesign to the Multi-Touch



screen subsystem on that device you won't get the full experience if using the Pencil with the Air 2.

Our early experiences with the Smart Keyboard and Apple Pencil have been positive - you can read more about them in our iPad Pro review. Bear in mind that these are not included with the Pro, however: we haven't been given UK pricing but we know that the Smart Keyboard will cost \$169 in the US and the Apple Pencil \$99.

Apple's own accessories will always be that tiny bit better integrated than those made by third-party accessory makers, since Apple controls and has full access to the design of the primary device and the operating system that runs on it. But they are almost universally more expensive than the equivalent by another company.

Bear in mind that there are likely to be lots of styluses and keyboard cases launched by third parties in the run-up to the iPad Pro's launch that echo the designs of the Apple Pencil and Smart Keyboard – and these will probably be made for both Pro and Air 2.

Audio

The Pro is a better pick for those who consider audio output a priority. Whereas the iPad Air 2 has twin speakers – and these so close together at the front



edge that you get scarcely any stereo effect - the Pro has four. What's more, Apple says that the Pro incorporates an automatic rebalancing system that adjusts the output of the speakers to compensate for the position the Pro is in, the way you're holding it and so on.

We haven't tested the Pro's audio – the noise generated by gathered journalists at the hands-on session made accurate analysis impossible – but we're optimistic that a historically weak area for the iPad range has been given a boost.

What's the same?

The Pro features numerous upgrades, as we've seen, but there are plenty of things these two tablets have in common.

Their screens are different sizes and different resolutions, but they should offer the same degree of sharpness. The extra pixels are proportionate to the extra space, in other words: both devices have a pixel density of 264 pixels per inch, or ppi. (In practice you may find yourself holding the Pro



further from your eyes, meaning it could get away with a lower pixel density to achieve the same impression of sharpness. Apple used this logic in the past to allow lower-pixel-density devices to be rated as Retina if it believed they would be held further away, but we're pleased it hasn't done so here.)

Battery life for the two devices is officially rated the same (10 hours of Wi-Fi based web surfing), and the front- and rear-facing cameras on the two tablets have matching specs and features. (Both devices' rear cameras are rated 8Mp, and front cameras are 1.2Mp.)

Both the iPad Pro and Air 2 feature fast 802.11ac wireless and the newer Bluetooth 4.2 standard. (The iPad mini 4 offers these too. The iPad Air 1 and mini 2 are both restricted to a/b/g/n wireless, however, and Bluetooth 4.0.)



iPad Pro

The Touch ID fingerprint scanner appears to be the same on each device – if Apple has given the Pro the faster Touch ID we're enjoying in the iPhone 6s, it hasn't drawn attention to this fact – and both can use this for Apple Pay online and in apps, but not in shops. Lastly, the Pro and Air 2 come in the same colour options: silver, Space Grey and our beloved gold. Rose gold remains an iPhone-only offering for the time being.

Price and availability

One down side of plumping for the iPad Pro is that you're going to have to wait before buying – and we're not even sure exactly how long for. Apple has only said that the iPad Pro will launch in November. (The iPad Air 2 is available now, and has been for about a year.)

You'll also have to wait until closer to launch before you find out how much the Pro will cost in the UK. We do, however, have US pricing, which allows us to get an idea of how the two products will compare price-wise. As you can see, at the two points at which direct comparisons are possible, the Pro is \$250 more expensive.)

iPad Air 2 (Wi-Fi only):

16GB, £399; 64GB, £479; 128GB, £559

iPad Air 2 (Wi-Fi only):

16GB, £499; 64GB, £579; 128GB, £659

iPad Pro (Wi-Fi-only):

32GB, \$799; 128GB, \$949

iPad Pro (cellular):

128GB, \$1,079

iPad & iPhone User's buying advice

The iPad Pro is Apple's biggest, fastest and of course most expensive tablet yet, coming in at \$250 – probably about £200 to £220 – more than the iPad Air 2 at equivalent storage offerings. Is it really worth the extra money?

Naturally that depends on what you want from a tablet, but we think the Pro has a lot to offer. You're getting a significantly bigger screen (78 percent more screen space), a processor that's claimed to be almost twice as fast as the already-speedy chip in the Air 2, superior audio and access to swish new stylus and keyboard-cover accessories made by Apple itself (although these cost even more).

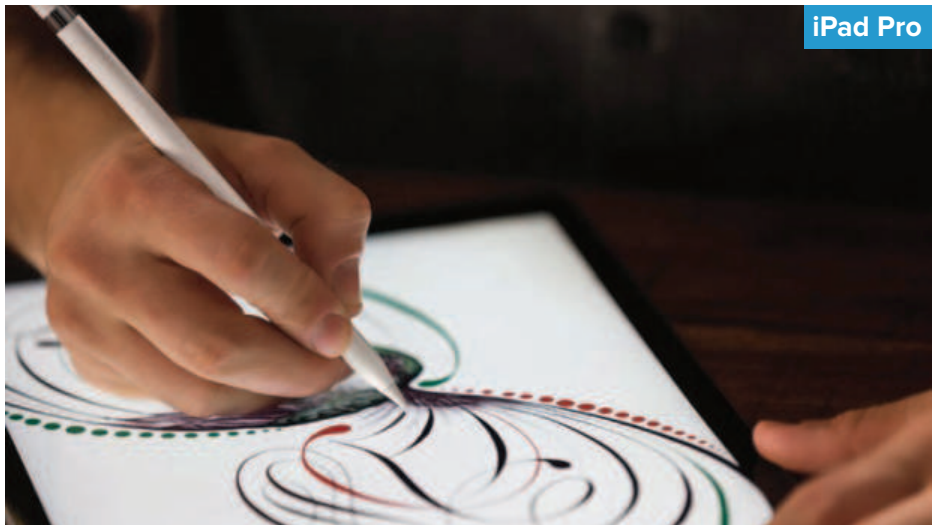
The Pro is a great option for digital creatives, especially if you add the Pencil stylus to the mix, and business users will also enjoy the ability to run two productivity apps side by side, each one at almost the size of an iPad Air 2 screen, using iOS 9's Split View. Gamers, too, will be wowed by that super-fast processor and should get a lot of pleasure from the audio setup.

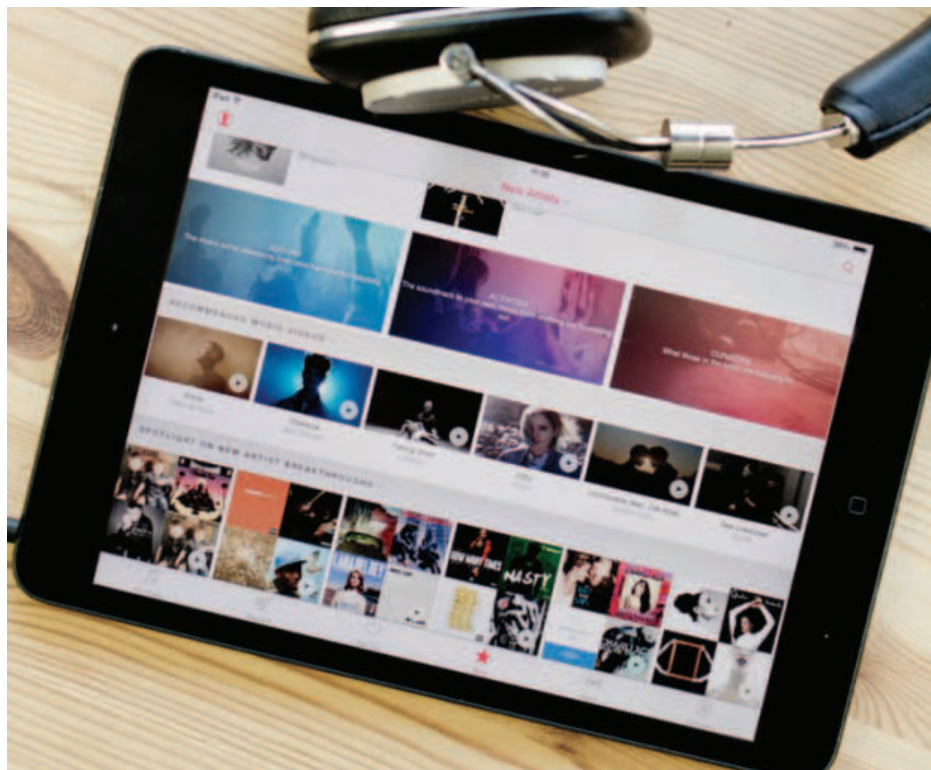
But do you really need all this power and screen space? The Air 2 looks small now, but in a year of gaming, media watching and mobile working we've never found its 9.7in screen insufficient. The A9X chip, too, is for the time being absolute overkill: the Air 2 can comfortably run every app we throw at it. It'll be a while yet before the Pro's extra muscle really shows its worth, although it will do so eventually, future-proofing being one of its advantages over the Air 2.

For the general user, even one like the author who enjoys high-end gaming and plans to use their

tablet for work and media consumption as well as the lighter email/web-browsing duties that could be accomplished happily by an iPad mini 2, the Air 2 is likely to be a better-value option than the Pro. We would recommend that device only to those whose professional or day-to-day habits require its capabilities. Digital artists may well find it worth the money, and business users, too.

Think carefully before committing all that money, and focus on the physical differences, which affect both your screen space and the portability of your device. When discussing new ‘form factors’ we often advise readers – assuming they can’t pop into an Apple Store and feel the devices for themselves – to mock up cardboard effigies of the two items under consideration (using the dimensions above) and play around with them. See if it fits in that bag you like. Imagine watching a film on the screen. Try to work out if it’s right for you and your lifestyle.





Alternatives to iOS Music

Apps that do a better job than Apple's offering

If you like listening to music on your iPhone, iPad, or iPod touch, but don't use Apple Music, you may find the new Music app to be overkill (see above). It's got lots of features that don't add much to your listening experience and just get in the way. With a cluttered interface, Apple's Music app has lost its main vocation: the ability to let you choose the music

you want to listen to quickly and easily.

Fortunately, there are lots of alternatives. Most of these apps try to simplify the experience of spinning songs on your iOS device, or offer more intuitive ways of controlling your listening sessions.

While Apple doesn't let you easily replace its bundled apps—for example, even if you have another browser installed on an iOS device, Safari opens when you tap a link—there are no such limits with music player apps. They can all access the music you sync over iTunes, and the music you download to your device from iCloud or the iTunes Store. So any music player app can access your library, and you can control playback from your iOS device's lock screen, or even your Apple Watch.

Here's a look at four apps you can use to play music on your iOS device.

Ecoute

The 79p Ecoute is a minimalist player that lets you browse your music library by viewing its artwork. It has the essential controls—play music in order, shuffle it, repeat it, and manage a play queue. But it also has some extras, such as a Shuffle Albums feature, which many people will find useful; I especially like this to listen to classical music.

Ecoute offers AirPlay streaming, and even lets you play podcasts. It



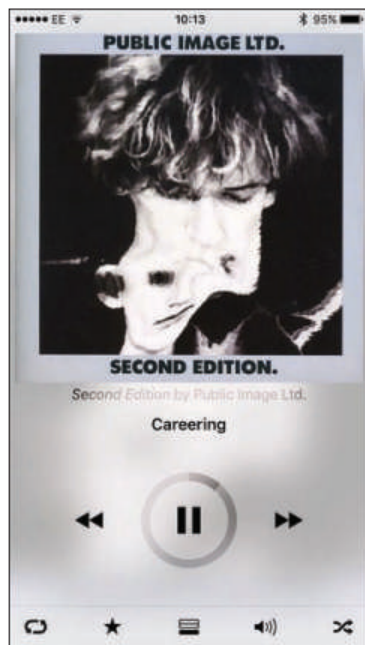
supports AirPlay, offers a night mode, and lets you sort music by many criteria.

And Ecoute is already updated to take advantage of 3D Touch, available on the iPhone 6s and 6s Plus. When you hard-press its icon, you get shortcuts to Search your library, Shuffle All, or Play All your music. For the 3D Touch Shuffle All feature alone, this app has earned a place on my iPhone.

Cesium

The £1.49 Cesium is a minimalist music player, similar to what the iOS Music app used to be before Apple added all the extra menus and buttons. It's got a whole slew of tiny features that make playing music a lot better. You can control it using gestures, you can choose a number of sort options (including 'Classical Mode', which sorts classical music by composers' names instead of artists), and you can use it to play audiobooks.

With Cesium, you can shuffle by album, manage your play queue, view your listening history, and even choose custom colours for the app's theme, or use a night mode. I wish Cesium had better documentation and support, rather than just a page on Reddit and a Twitter account for the latter; figuring out how to use its gestures takes a while. But Cesium is a slick app, and once you've figured it out, it makes Apple's app look bloated.

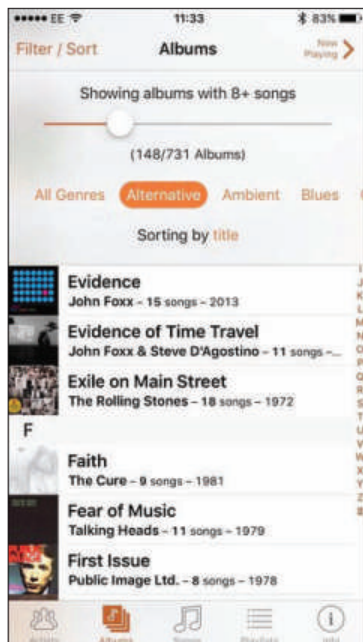


Picky

If you have a lot of music on your iOS device – if you’re carrying around a 128GB iPhone, for example – you may find it daunting to choose what to listen to. The £2.29 Picky steps in to let you filter your library to choose exactly the music you want to hear. Tap Filter, and, in the different views – Artists, Albums, Songs, or Playlists – and you can choose to view only those entries with more than a certain number of tracks. For example, let’s say that, for today’s playlist, you want to only hear your rock, electronic, and alternative songs. Sort by those genres in Picky, and the rest of your music stays hidden.

This lets you choose when you want to listen to singles or occasional tracks that are outliers in your library. It can take a while to get used to this, but when you do, you realize how much easier it is to choose what to listen to if you have an eclectic music collection.

Aside from these filtering features, Picky is a clean, minimalist player, that offers the usual features: shuffle, repeat, a play queue, and more.



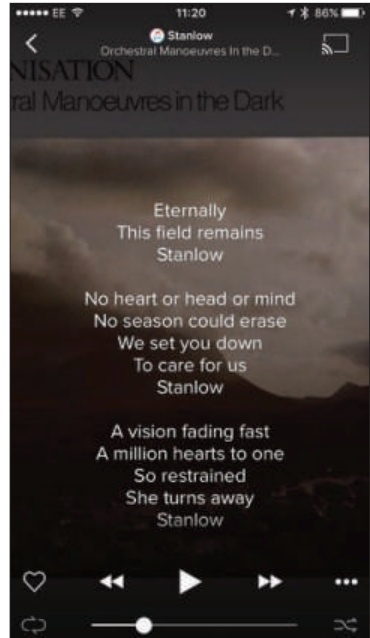
Musixmatch

While it’s not the most attractive music player out there, Musixmatch (which is free, but offers in-app purchases for some features) is great if you like to

sing along to your favorite songs. Musixmatch has a database of more than 7 million songs in 38 languages, and while it doesn't find lyrics for everything in my library, it does for most songs.

You can also use Musixmatch to identify songs you hear around you, and display their lyrics. Musixmatch has an Apple Watch app, which can control the iPhone app, display lyrics, and listen to music to identify songs. There's also a Notification Center widget, if you want to be able to see lyrics on your iOS device's lock screen.

There are plenty of other music player apps available for iOS, but these four offer a streamlined approach to choosing and playing music, as compared to Apple's stock Music app.



DISRUPT

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App invasion

The best iOS apps from TechCrunch Disrupt

Many popular apps first made their mark at TechCrunch Disrupt, a three-day tech conference in San Francisco. During this year's TC Disrupt, we took to the Startup Alley expo floor to get a glimpse at the next generation of mobile apps. Take a look – these apps will change the way you find a parking space, ensure everyone knows what you want for your birthday, and more.

Bravo

Price: Free

With this new app, you won't ever have to have cash in order to leave a tip or gratuity to your servers, stylists, valet attendants, and other service professionals. Bravo is a cashless peer-to-peer



money app, with similar social capabilities like Venmo, but for tipping. This app finds service professionals with a Bravo profile via GPS or NFC, so you can instantly give them a tip and a rating. You can also manually input a user's Bravo code or scan their QR code.



KwiltKeys

Price: Free

KwiltKeys is an iOS keyboard from Kwilt, an app that bills itself as a photo roll 'on steroids' that lets you access all your photos across different social and storage services in one app. This app lets you share your photos in Messages or other messaging platforms without leaving the app.

Kwilt and KwiltKeys support

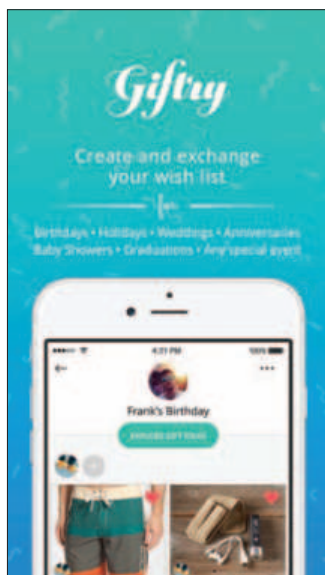
Photos, Facebook, Instagram, Dropbox, OneDrive, Google Drive, Google Photos, Tumblr, Twitter, Flickr, Photobucket, and Amazon Cloud Drive.



Shelfie

Price: Free

The best new app for bibliophiles, Shelfie is like Shazam for your book collection. Simply take a photo of books on your shelf (a shelf selfie, or 'shelfie' if you will) to create a digital library that you can share with fellow book-lovers. The makers of Shelfie have also struck deals with several publishers, including Harper Collins, to let you read an ebook version of a print book you already own for free or with a discount.



Giftry

Price: Free

Who doesn't like to receive the perfect gift? With Giftry, you won't ever have to ask for a gift receipt or have to succumb to re-gifting. The app works as a 'retailer-neutral' gift registry that you can share with friends and family so they always know what to get you on your birthday. You can add items to your Giftry registry via a web link, a photo from your camera roll, or a scan code.



Fleck

Price: Free

Parking can be a real problem in big cities – 30 percent of traffic is people just searching for an open spot. Fleck is trying to make this easier, with the goal of making sure that you won't have to drive around aimlessly looking for a parking spot ever again. Fleck works very similarly to Airbnb, but as a marketplace for empty parking spaces instead of home. Drivers reserve a parking spot in advance, and parking space owners get to make extra income when they're not using it.

Cafe X

Price: Free

Even though there's a Starbucks on every corner, the lines to get coffee are getting longer, especially in the morning or in the early afternoon – right

when you need coffee the most. Cafe X lets you preorder and pay for a latte or mocha right from your iPhone. Simply put in your order and head to your nearest Cafe X robotic cafe (basically an automated coffee vending machines)



to pickup your coffee. Right now, the only robotic cafe is in Hong Kong, but the company is looking to expand to airports, malls, and college campuses.



SuperCharged

Based on 12 years of research in quantum biology, SuperCharged made its debut at TC Disrupt this year. When it comes out, this free mobile app will be able to analyse

your health based on the sound of your voice, combining voice resonance technology with machine learning to create a personalised health profile. The app then becomes your personal health and wellness coach with recommendations on how to better your health. Sign up for the SuperCharged mailing list at tinyurl.com/n9Lxqn3 to find out when the app will be available.

RoadGazer

If you love going on road trips, RoadGazer promises to make the journey easier. This forthcoming iOS app acts as your personal copilot during a long car trip. Plan your travel itinerary with RoadGazer and the app will talk to you while on the road so you won't have to take your hands off the wheel to get



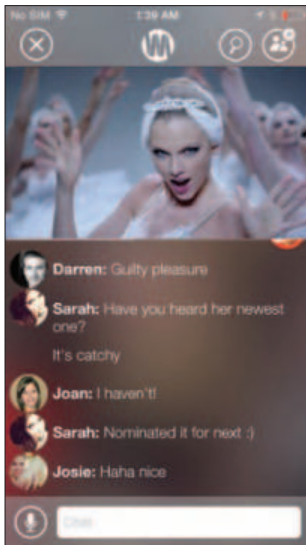
traffic updates and alerts about an upcoming rest stop or restaurant where you wanted to stop. Sign up on RoadGazer's website at roadgazer.com for early-bird access.



Membit

This is about as close as we got to seeing a time machine at TC Disrupt. Membit is a new app that lets you unlock past clips – or ‘membits’ – that were taken in a specific location. Snapchat filed a

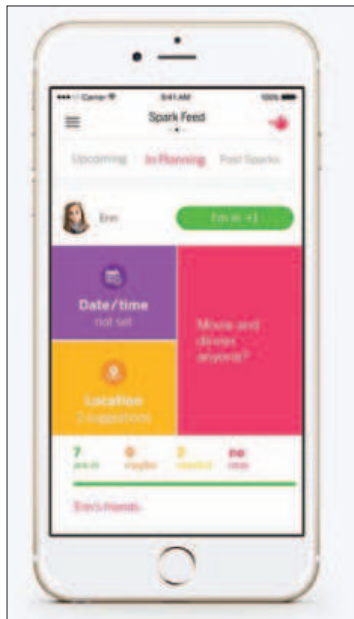
patent for a similar feature back in November 2014, so we'll see if they release it before Membit's big debut later in the autumn. You can learn more about how Membit works on their website at membit.co.



WeMesh

Price: Free

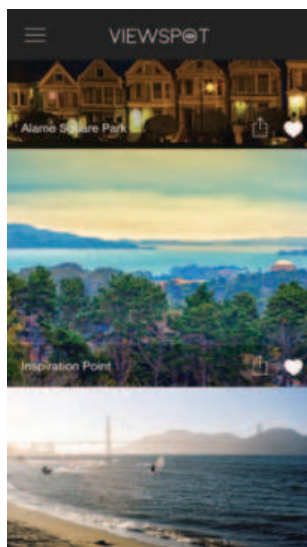
Pretty soon you won't have to go to a sports bar if you want to cheer on your favorite team with a group of friends: WeMesh is making video watching a communal activity again. This app lets you watch YouTube videos simultaneously with people in your Contacts – syncing the videos up perfectly. You can even chat or talk while the video is playing.



Ignite

Price: Free

The last time I planned a get-together with friends, it took about 35 emails to coordinate everything. Yikes. Ignite is looking to streamline the experience. The app gives you a feed of all your friends' social ideas called 'sparks'. You can then choose which things you'd like to attend. If an event gets enough interested parties, then you and your friends pick a date, time, and location that works for everyone. You can even create polls to see, for example, what food everyone is bringing to a potluck or coordinate ride shares.



Viewspot

Price: Free

For travellers in a new destination or city-dwellers who want to find the best secret spots, Viewspot offers a list of public vantage points where you can catch the sunset, take in the sweeping cityscape, or enjoy panoramic ocean vistas. (Basically any place that would make for a killer Instagram photo.) The app collects photos and information about these scenic spots that you can browse in a map and add to your own personal bucket list.



The best of iOS 9

The new features we are most excited about

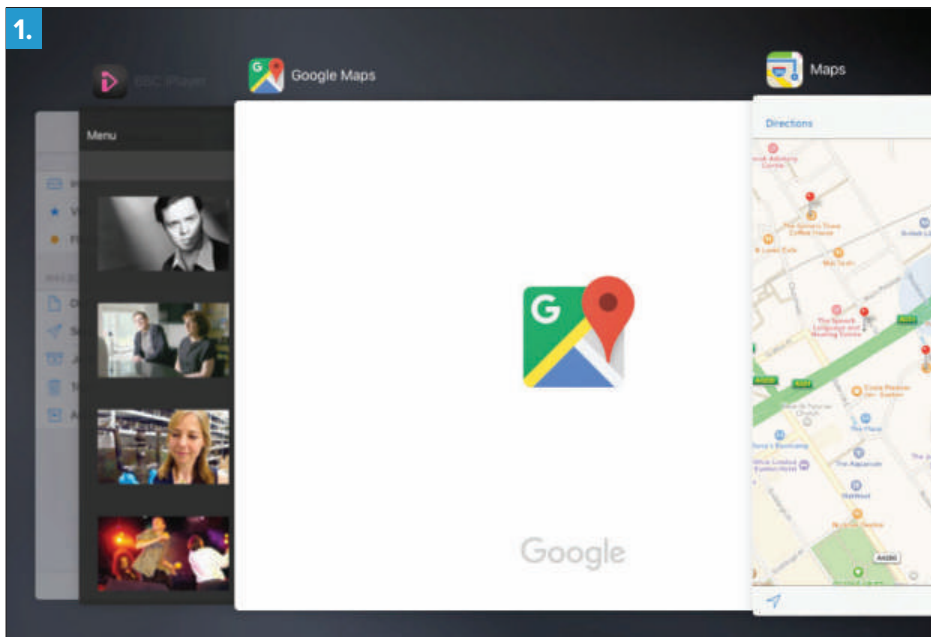
Apple's newest iOS is far from a drastic overhaul, and that's okay. Sometimes it's the most subtle tweaks that have the biggest impact. And iOS 9 proves that. Now that iOS 9 is available, here are some of our favourite features that could make using your iOS device a lot easier.

1. App switcher

iOS 9 makes browsing through all your apps as intuitive as flipping through a deck of cards. As always, double press the Home button to start flipping through your apps, which will show up on the left side of the screen this time.

2. Using Mail for smarter caller ID

The new iOS relies on the data from your Mail app to gather more information about your Contacts. This is



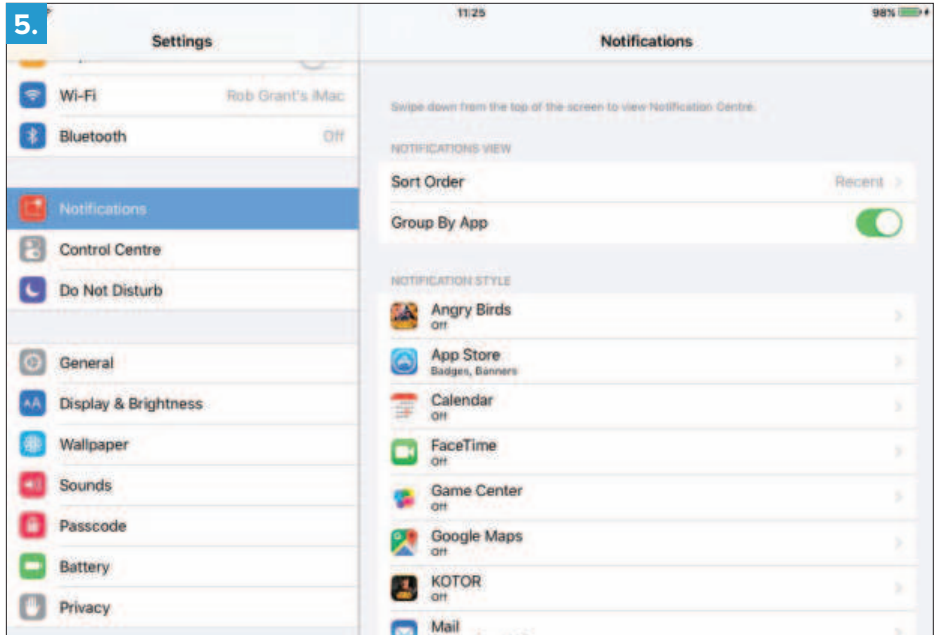
an optional feature in Settings, but if activated, you'll get email address autocomplete suggestions. It will even try to guess an unknown number.

3. New ways to navigate in Photos

iOS 9 makes it easier than ever to scroll through and select your photos. Open a photo and you'll see a new scroll at the bottom to zoom back and forth between all your pics. Want to select a bunch of photos? You don't have to tap each one by one individually. Just pick one photo and then swipe over to the rest of the photos you want to select.

4. Contact thumbnails in Messages

Previously only iPhone 6s Plus users got to see a circular thumbnail of their contact's face in



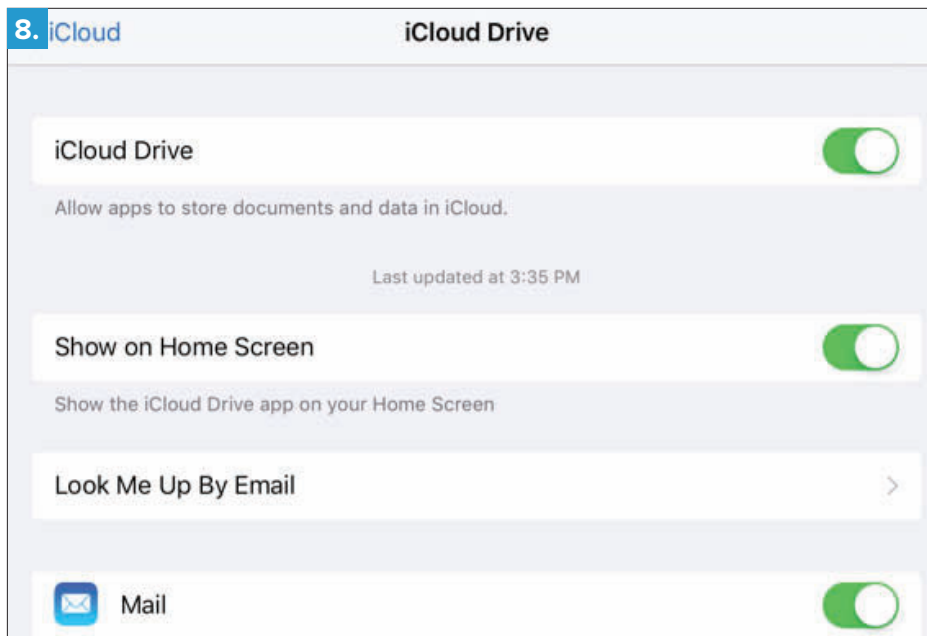
Messages. iOS 9 brings this feature to all iPhone models, so now you can put a face to a name.

5. Notifications view by most recent

In iOS 9, your notification view is now organised in chronological order, so the most recent notifications remain at the top. You have the option to change this in Settings, by opting to group notifications by app.

6. Siri suggestions in Spotlight

Siri in iOS 9 surfaces a bunch of proactive hints based on how you use your iPhone. Do you call your mum every day before dinner? Spotlight will have her as a suggested contact. Check Instagram for hours before bed? Spotlight will help you indulge in your nighttime ritual, too.



7. Music responds to plugging in earbuds

Another cool proactive feature: Every time we plug in my earbuds, the Music app launches automatically. Not only that, but it's set on the song we're most likely to be listening to during that time of day, so we can start our music listening routine without even unlocking our phone.

8. Access the iCloud Drive app

Ever wonder what documents you've got stored on iCloud? iOS 9 gives you the option to access your iCloud Drive via a new native app. In Settings, just toggle to show the iCloud Drive app on the Home screen to access it. iOS 9 also lets you add an attachment in Mail directly from your iCloud Drive.

9. iPad only: Two apps at once

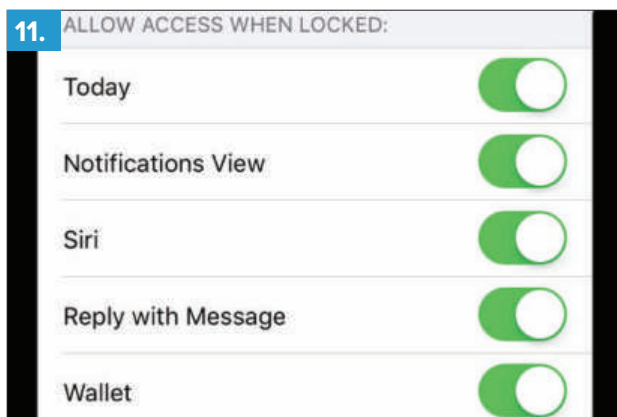
If you have an iPad Pro, an iPad 2 or a mini 4, then you get an extra iOS 9 feature: Split View, or the ability to use two apps at once. For example, if you're looking at a restaurant listing in Maps and click on the website, the URL will launch in Safari so you can view both at the same time.

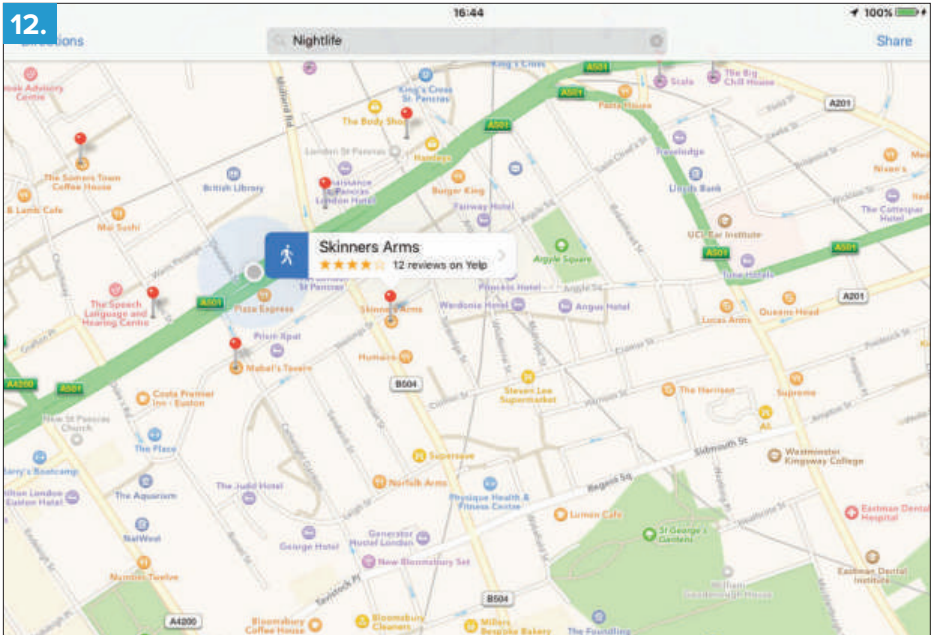
10. Reach Contacts directly from Spotlight Search

The Spotlight screen gets added functionality. For example, search for a Contact and you'll get the option to call them, send them an iMessage or FaceTime them directly from the search results.

11. Access the Wallet from the lock screen

In iOS 9, you'll be able to fire up the new Wallet app (and Apple Pay) directly from the Home screen, even when the screen is locked. This makes it easy to use Apple Pay to pay for everyday purchases. Previously, you could launch Siri from the locked screen and reply to a message, too.





12. Nearby suggestions in Maps

In addition to transit directions, Maps gets Nearby suggestions for local businesses. Instead of typing ‘Bakeries’, you can now just tap the Food icon, followed by the Bakeries option to get a list of nearby places where you can get your croissant fix. You can also get suggestions for Shopping, Travel, Nightlife, and other Services.

13. Low Power Mode to squeeze extra battery life

We can’t say enough good things about Low Power mode. We love that it asks at 20 percent and again at 10, and then turns itself back off automatically once you’re charged up to 80 percent. And you can still use almost all the functions of your phone:

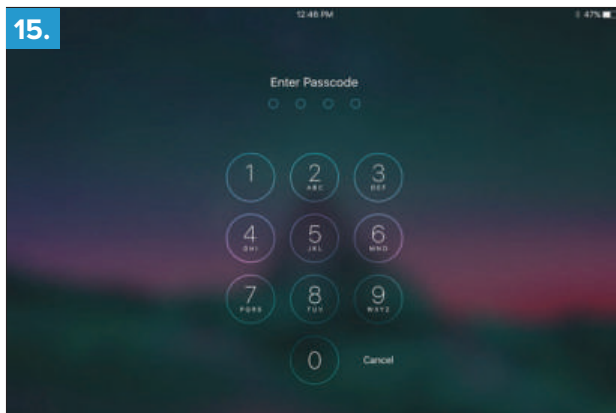
Wi-Fi, Bluetooth, Location Services, GPS, everything. The screen goes to sleep a little quicker than before (which means we have to keep tapping idly in Alphabears while we're staring at the screen contemplating my next move), and you can't use AirDrop or Continuity, but who cares when it means our phone no longer needs a mandatory topping-off every day at around 7pm.

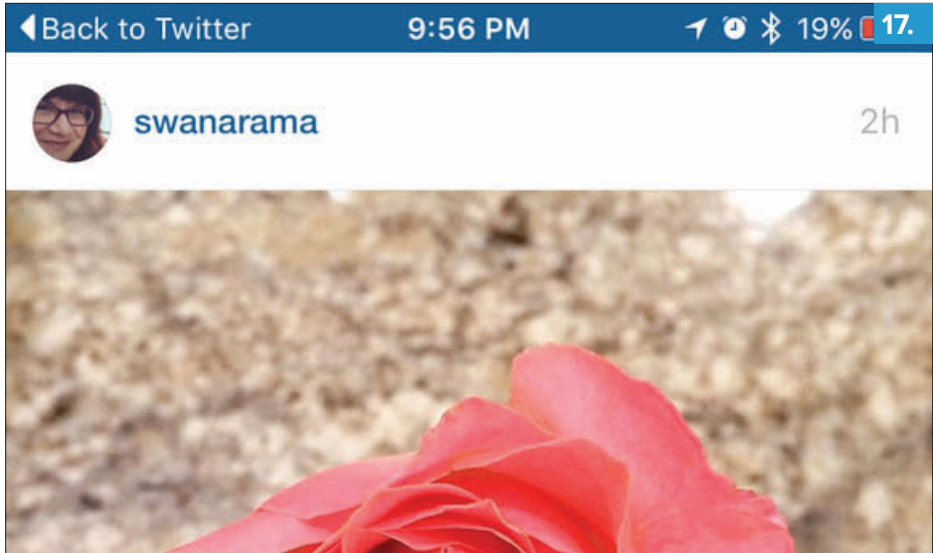
14. Automatically organise your selfies

A new small tweak to the Photos app in iOS 9 has made it easier to keep all your pictures organised, especially if you're a selfie enthusiast. Photos taken with the front-facing camera get automatically placed ins a 'Selfies' folder, while screenshots taken by pressing the Home button and the power button get their own dedicated folder as well.

15. The new San Francisco font

The custom Apple-designed font that was first used on the Apple Watch interface comes to iOS 9. This new San Francisco font is used in Settings, Spotlight





search, and in the native apps. You can even choose it as the default font for your iBooks collection. The sophisticated yet easy-to-read font may be subtle, but we noticed it from the first time we swiped open the lock screen.

16. Intuitive Shift key

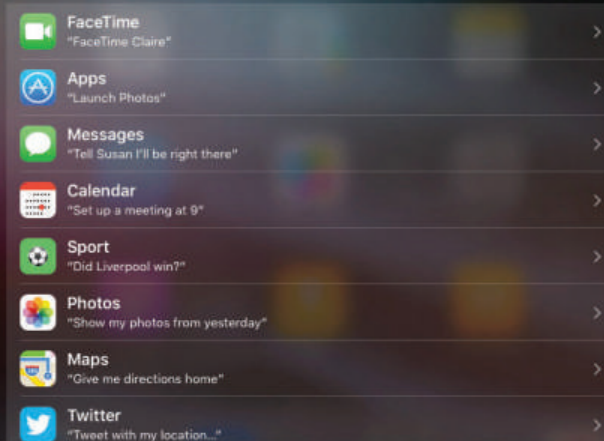
We like the subtle tweaks made to the standard iOS keyboard – especially the new Shift key. We know, this is far from revolutionary, but it makes it much easier to tell if the caps is turned off or on when your entire keyboard displays the letters in upper- or lowercase letters.

17. Go back to previous apps with tiny, new Back button

We're big fans of the Back button. If we are in, for example, Twitter, and we get a notification from

19.

Some things you can ask me:



Instagram, we can tap that notification, switch to Instagram, tap all around inside Instagram, and still get back to Twitter with one tap. Although we could do that before with the application switcher, the back button is a lot more obvious.

18. Sharing content into Notes is a game-changer

The Notes share sheet is a game-changer, letting you embed websites, maps, and photos in a to-do list. Once third-party apps support the share sheet, your notes will become more useful than before.

19. Siri is now your new personal DJ

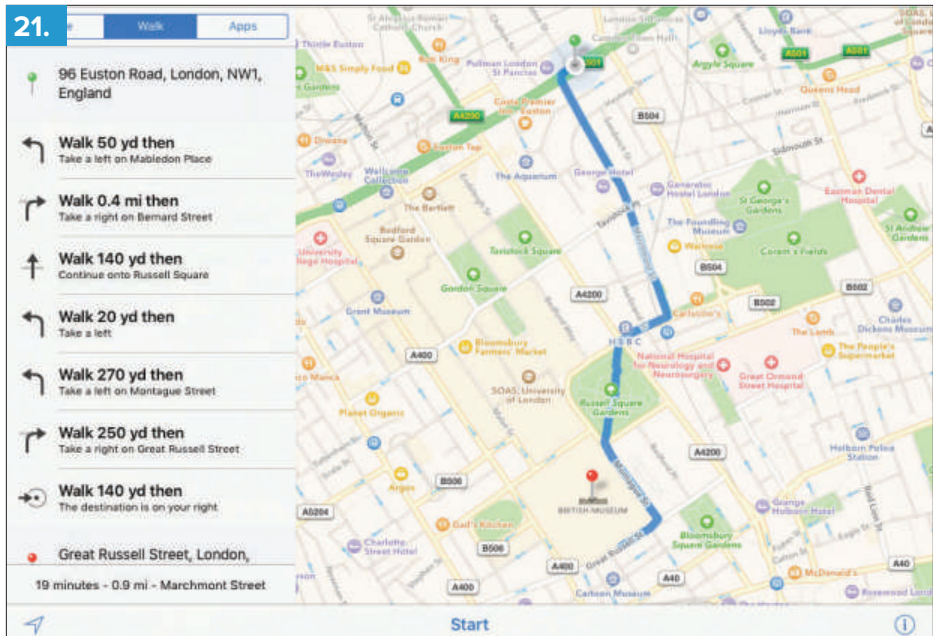
In iOS 9, Siri is a lot smarter. Not only does Apple's digital assistant serve up information about the



weather or different directions, but it can answer complex queries such as ‘show me photos from last summer’. The most exciting part, however, is how well it knows out Apple Music collection. You can ask Siri to play a specific artist, playlist, or ‘the hottest songs from 1986’.

20. Want to change your Settings? Just search

A searchable Settings app is another new feature that’s so small, yet so incredibly helpful that we don’t know why Apple hadn’t included it before. Instead of pouring through each individual setting to find what we want to adjust, we can now just do a quick Spotlight-esque search to find what we need.



21. Drive, walk or take public transportation

For years, Maps users had to rely on third-party apps to get reliable public transportation directions. Now anymore. Finally iOS 9 includes Transit view, which incorporates subway and bus schedules/routes. Transit, however, is only available in select cities, such as London, Berlin, San Francisco, Washington, DC, Mexico City, Toronto, and 300 cities in China.

22. Articles are easy to find in News

A few publishers are adopting Apple News Format to create interesting-looking articles in the News app with big images, animations, and videos. Luckily, it's easy to find all these articles by subscribing to the Apple News Selections channel.



23. Integration with Apple Watch Activity achievements

For Apple Watch wearers only: it's pretty neat how the achievement medals in the Activity app are engraved with the date you earned them. Just swipe one with your finger to flip it over. It's a tiny change, but we get a kick out of it.

24. iPad only: Easy editing of long chunks of text

With iOS 9, you can place two fingers down on the keyboard and it instantly becomes a trackpad, letting you select large chunks of text with

one swipe. The new tools on the QuickType bar help you format the text or cut/copy/paste it with one tap. We've never thought of the iPad as a viable replacement to my MacBook – until now.

25. iPad only: Picture-in-picture offers much-needed distractions

Back in school did you ever hide a comic inside a textbook to give the impression you were studying? iOS 9 gives the iPad a similar function with picture-in-picture. Now you can research a work project while watching Cartoon Network at the same time.



iOS 9 on the iPad

The iOS 9 features that are exclusive to the iPad

- OS 9 has made its way on to iPads and iPhones around the world. Here, we talk you through everything you need to know about iOS 9 on your iPad, including which models will get the new features coming in Apple's latest iOS, and tips on how to use those new features

Compatible iPads

- iPad Air and Air 2,
- iPad 2, third- and fourth generation
- iPad mini, 2, 3 and 4

Will my iPad get multitasking?

While all of the above iPads are getting iOS 9, some of the best features require more power than the older models can offer. We are really excited about the Slide Over, Split View and Picture in Picture features, which means that productivity is much easier on Apple's tablet.

Here's a breakdown of which iPads will be able to run which feature:

Slide Over

- iPad Air, Air 2
- iPad mini 2, 3, 4

Picture in Picture

- iPad Air, Air 2
- iPad mini 2, 3, 4

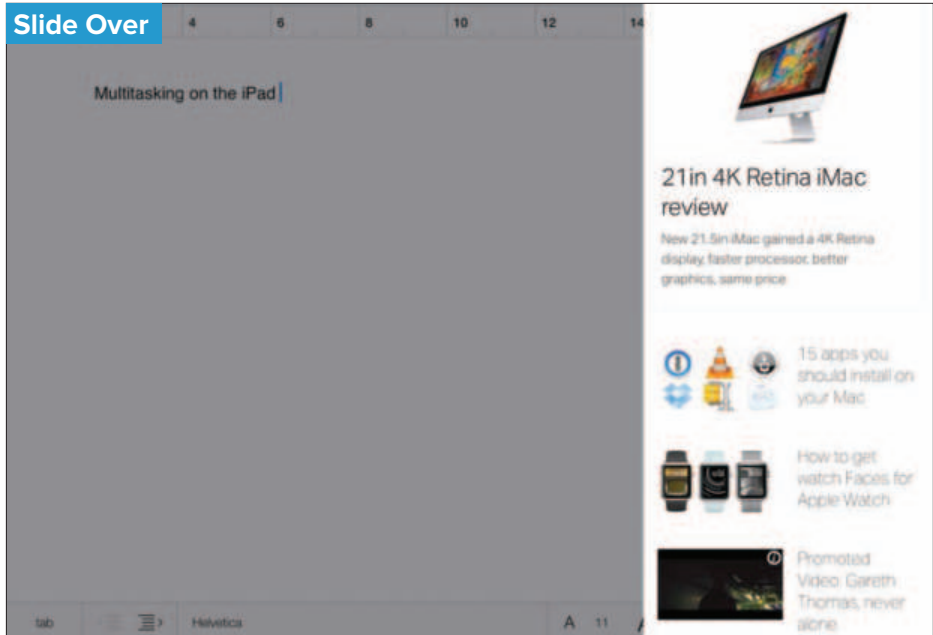
Split View

- iPad Air 2, iPad mini 4

Slide Over

This allows you to open another app without leaving the one you're currently in. It'll mean that you can send a tweet, respond to a text message or jot something down in the Slide Over window, and then slide it away again to go back to what you were doing.

To use Slide Over, you can swipe from right to left on the righthand side of your iPad to see another app. It'll take up about a third of the screen. If you want to change the app that appears in Slide Over, you can do so by swiping down from the top of the screen.

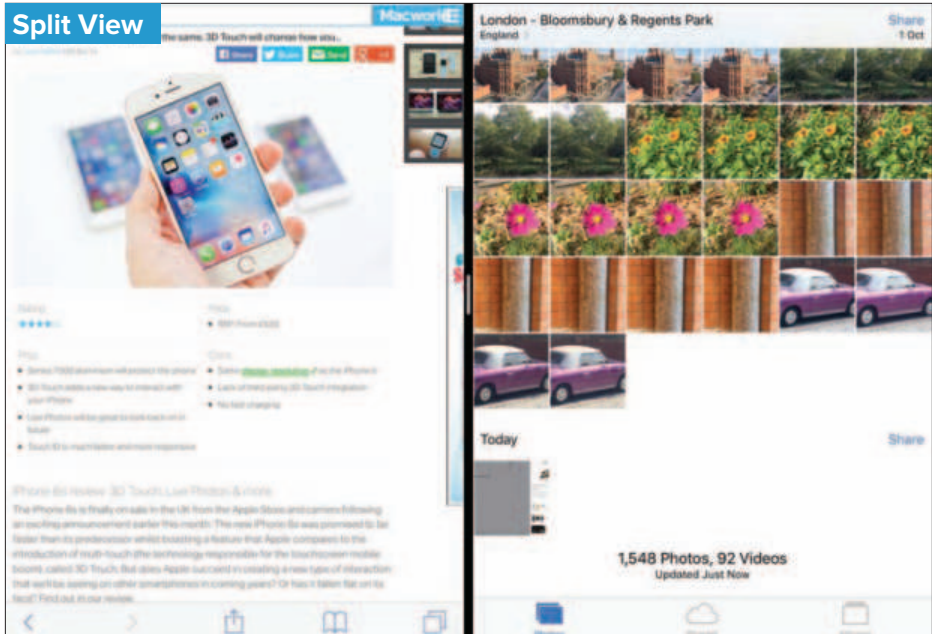


Split View

Split View is an iPad Air 2 exclusive feature that is a more powerful version of Slide Over, and is the fully-fledged split-screen multitasking we've been waiting for. It lets you run two apps side-by-side, with both of those apps available to interact with at the same time. That means you could be researching on the web using the Safari app and jotting down notes about the subject in the Pages app, for example.

Other examples given by Apple include working on a sketch with the reference photo beside it, writing a paper while copying citations from a book in iBooks, or looking at the Maps app while planning a holiday using TripAdvisor.

You can access the Split View feature by first swiping from the right of the screen to bring up Slide



Over, and then dragging the divider between the two apps to the centre of the screen.

Picture in Picture

The final multitasking feature is called Picture in Picture, which lets you watch a video or use FaceTime, while using another app. By pressing the Home button, the video or FaceTime screen will scale down and sit at the bottom corner of your display while you work on something else. You can move the floating video screen around or move it offscreen if you only want to listen to the audio.

QuickType

QuickType is another new feature coming to the iPad with iOS 9. You'll see functions such as copy

Picture in Picture

Blank 11



Multitasking on the iPad



and paste, add attachment and format text on the keyboard itself, along the top in a new Shortcut Bar. The Shortcut Bar will have different tools depending on the app you're using, and can be utilised by third-party apps.

Easy text selection

Additionally, the new keyboard lets you use your touchscreen as a trackpad. You just need to place two fingers on the screen to activate it and they'll act as a cursor for quickly and easily selecting chunks of text, for example. This will make it easier to select and move text. A double-tap with two fingers will select the word on which the cursor is positioned, and a triple-tap will select an entire paragraph.



WatchOS 2 features

Apple's 'most personal device' just got better

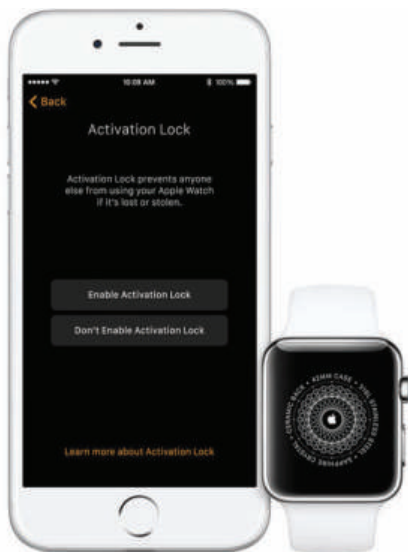
Just five months after Apple launched what it calls its “most personal device ever,” the company released watchOS 2, the second-generation OS that makes its smartwatch much more useful. From apps that run natively and third-party watch face complications to colourful Digital Touch sketches and deeper Apple Music integration, watchOS 2 packs in a variety of new features. If you weren't already planning to buy an Apple Watch, watchOS 2 might not win you over, but the upgrade is a definite improvement for watch owners.

1. Apps gone native

Apple Watches shipped with watchOS 1.0, which supports third-party apps but requires them to push all of the heavy lifting to your iPhone. Apps that don't run natively (so anything other than Apple's built-in watch apps) couldn't tap into all of the watch's hardware features, like the accelerometer, Taptic Engine, microphone, and heart rate sensor. That changed with watchOS 2. Apple has opened its features to app developers to let them test the watch's boundaries.

Instead of waiting for the watch's native Activity app to relay your heart rate to the iPhone Health app using HealthKit, third-party apps can run natively and collect that information on their own. Ideally, this means we'll see developers make use of features such as the Taptic Engine in really interesting ways. Watch apps also run much faster, because native apps don't have to wait for your iPhone to respond.





2. Activation lock

Apple has faced criticism over the Apple Watch's security – specifically, how easy it is to steal and wipe the watch, even if you don't know the passcode. WatchOS 2 changes that with Activation Lock. When you activate your Apple Watch, you'll be required to enter your iCloud Apple ID and password, so the device is tied to your account and no one can use your watch if it's stolen. This feature is

optional, but a good move on Apple's part.

3. New faces

The current line-up of Apple Watch faces is appealing, but just like with your iPhone home screen background, sometimes you'd rather



personalise your device than use a stock image. WatchOS 2 lets you choose from either a time-lapsed skyline scene, a still photo from your own collection, or a curated album of favourites that rotates through images in your library every time you raise your wrist. It's a simple change, but a welcome one.

4. Third-party complications

Some watch faces (though not the new ones added to watchOS 2) show complications – little pieces of helpful information like the time in other cities, the temperature outside, and how close you are to reaching your Activity goals. The new OS opens those complications to app developers, so you can add even more information to your watch face – or swap out weather with something more relevant to you, like your airline departure time.



5. Time travel

The next-gen watchOS offers a new way to view your life with Time Travel. This gives you an overview of your day (or yesterday, or tomorrow). Just use the Digital Crown to scroll through your schedule and see contextual information like what the weather will be like during your trip tomorrow or the emails you missed from yesterday. A press of the Digital Crown returns your display to its watch face.



If this feature sounds similar to Pebble's Timeline, well, that's because it is. Timeline isn't quite as elegant as Time Travel, but it's an innovative way to use time as a user interface that goes beyond just numbers on a display. Like Timeline, Time Travel pulls in information from third-party apps, and is particularly useful on watch faces that allow third-party complications.

6. Apple Pay rewards you

The ability to use retailer loyalty programs and store credit and debit cards is a must-have for many Apple Pay users, and soon that support will roll out to both iPhones and Apple Watches. Just double-click the side button and pick the card you want to use, same as before. Except now you'll be rewarded with points that you would otherwise miss out on, which might boost Apple Pay's use.



7. Public transport on your wrist

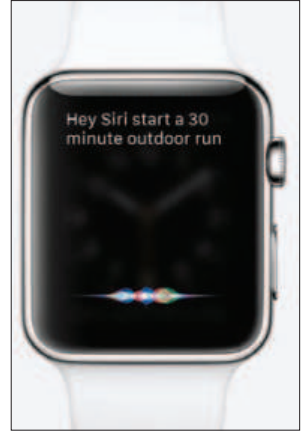
We like the Maps app for Apple Watch, which taps you on your wrist to give you turn-by-turn directions instead of verbally interrupting you. But, just like on the iPhone, Maps lacked crucial information for people in major metropolitan areas: public transit directions. Like iOS 9, watchOS 2 has had a major Maps upgrade, complete with public transport info. The watch's Maps app even gives you walking



directions to and from your transit stop, so you never have to reach for your iPhone.

8. Siri's new powers

Because you can only use your voice to communicate with your watch, not text, Siri has become more useful than ever. WatchOS 2 upgrades her to the next level with new capabilities: now Siri can start a workout for you, retrieve public transit information from Maps, open Glances without a swipe, and communicate with your HomeKit accessories based on your verbal commands.



9. Wake me up

When we take off our Apple Watch at night and plug it in, it becomes, for all intents and purposes, useless to me. It doesn't do anything but sit there and tell us how charged its battery is. That's useful and all, but



watchOS 2 makes your charging watch informative with Nightstand mode. When you tap the screen, the Digital Crown, or the side button, the watch will display the time, date, and battery percentage. And when you set an alarm on your watch, you'll be able to click the side button to turn it off or the Digital Crown to snooze it.

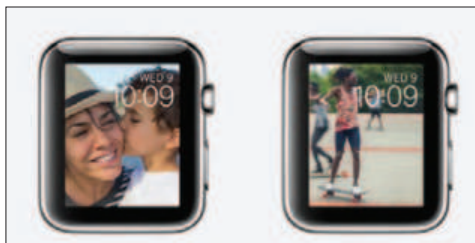
10. Circles of 12

Some Apple Watch owners have more than 12 friends and felt limited by the number of slots you could fill in your watch Friends. With watchOS 2, you can add multiple groups of 12 and organise those contacts, the groups, and their names in your iPhone's Apple Watch app. You can also add friends from your Contacts list directly on your watch.



11. Live Photos on the wrist

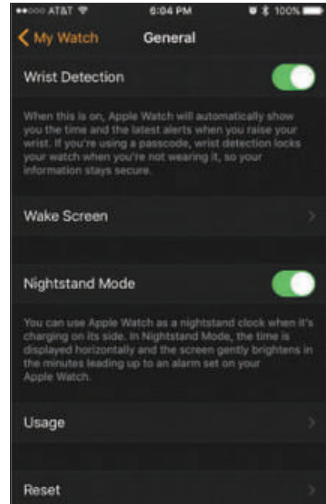
If you can't (or don't want to) buy an iPhone 6s or 6s Plus, you won't get to see Live Photos, one of the marquee features Apple trumpeted at its September event. But if you are upgrading to the next-generation iPhone and can shoot Live Photos, which record the 1.5 seconds before and after you shoot an image, you can then set one as your watch face wallpaper. It's like watching a GIF on your wrist. (Though time-lapse photos are also very cool and somewhat similar, for those not upgrading.)



12. Screen stays awake

One of the watch's little irritations on launch was its inability to stay awake longer than 15 seconds. If you raised your wrist to check the time and let your eye wander instead of reading the screen, you'd completely miss it.

But now you can change that in your watch's settings or the Apple Watch app on your iPhone by tapping through My Watch > General > Wake Screen and picking the option for the display to stay awake for 70 seconds instead of 15 when you tap it. This makes the watch much more useful as a watch, where the time stays visible for as long as you need it to.



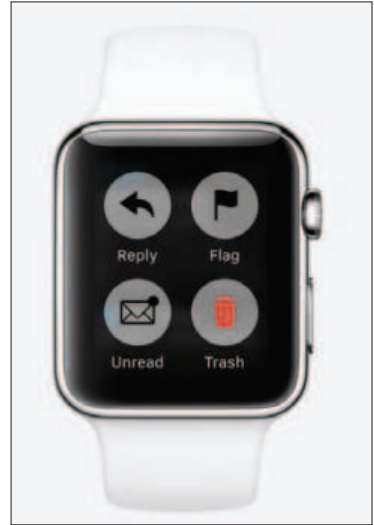
13. Apple Music perks

We use the Music app on my watch every day to control what we're listening to on the tube without having to take our phone out of our pocket or bag. With watchOS 2, Music loads so much faster. It also gets a nice home screen icon, so we don't keep accidentally tapping on Remote instead of Music. But watchOS 2 gives Music an overhauled navigation menu for quick access to Beats 1, My Music, Playlists, and a new option called Quick Play, which launches a random song from Apple Music. If you are a subscriber, you also get the bonus of being able to heart a song from the Now Playing glance, or add/remove it from your music library.



14. Reply by mail

Apple gave its most-used native watch apps a much-needed boost, and that includes Mail. With watchOS 2, you can finally reply to email messages without resorting to your iPhone – though in keeping with the watch's best uses cases, you can only send short-and-sweet replies. Choose from preset responses, which you can create yourself in the Apple Watch app on your phone under My Watch > Mail > Default Replies. You can add up to 20 custom messages. Your replies will come with a 'Sent from my Apple Watch' signature, just like on the iPhone – that, too, is customisable.



15. Digital Touch I

Digital Touch is one of the watch's most playful features, because it allows you to sketch images or send your heartbeat to an Apple Watch-wearing friend. But the sketches were a little sad, because you could only draw in one colour. Now you can send sketches using multiple colours, so red roses can at long last have green stems, or blue skies can have fluffy white clouds. (That's the extent of our drawing skills, so you get a little more creative with this new feature.)



